CERTIFICATE OF INSTALLATION		NRCI-ELC-01-E
Electrical Power Distribution		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION			
DATE OF BUILDING PERMIT	PERMIT #		
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Residential (Common Area)	☐ Hotel/Motel (Common Area)
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this Installation Certificate (continued).

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-ELC-01-E
Electrical Power Distribution		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-ENV-01-E
Envelope		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel Guest Room	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned
If more than one person has responsibility for building construction, each person shall prepare and sign an Installation Certificate document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Installation Certificate document(s) for the entire construction.				

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility for this Installation Certificate.

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION	NRCI-ENV-01-E
Envelope	(Page 2 of 2)

Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTI-01-E
Indoor Lighting		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this Installation Certificate (continued).

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-LTI-01-E
Indoor Lighting		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 1 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

Requirements in the Standards:

§130.4(b) Before an Energy Management Control System (EMCS), or Lighting Control System can be recognized for compliance with the lighting control requirements in Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Installation Certificate.

If any of the requirements in this Installation Certificate fail the Energy Management Control System or Lighting Control System installation requirements, these options for controlling lighting shall not be recognized for compliance with the Building Energy Efficiency Standards.

Check all that apply:

PART 1 What type of Lighting Control System has been installed?

☐ **A. Energy Management Control System (EMCS) -** Is a computerized control system designed to regulate the energy consumption of a building by controlling the operation of energy consuming systems, such as the heating, ventilation and air conditioning (HVAC), lighting, and water heating systems, and is capable of monitoring environmental and system loads, and adjusting HVAC operations in order to optimize energy usage and respond to demand response signals.

- ☐ The Energy Management Control System has been installed to function as a lighting control required by Part 6 and functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.

- ☐ The EMCS has been separately tested for each respective lighting control system for which it is installed to function as.

☐ **B. Lighting Control System -** Requires two or more components to be installed in the building to provide all of the functionality required to make up a fully functional and compliant lighting control.

- ☐ The installed Lighting Control System complies with the requirements checked below; and all components of the system considered together as installed meet all applicable requirements for the application for which they are installed as required in Sections 130.0 through 130.5, Sections 140.6 through 140.8, Section 141.0, and Section 150.0(k).

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 2 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 2 Lighting Control Functional requirements: ***Check all that apply when verifying the installation of an EMCS or Lighting Control System.***

☐ A. All lighting controls and equipment have been installed in accordance with the manufacturer's instructions.

☐ B. The manufacturer has provided instructions for calibration.

☐ C. If indicator lights are integral to any components, such indicator lights consumes no more than 1 watt of power per indicator light.

☐ D. Components that are regulated by the Title 20 Appliance Efficiency Regulations have been certified to the Energy Commission.

☐ E. The EMCS or Lighting Control System functions as one or more of the Time-Switch Lighting Controls checked below, and complies with all of the following requirements:

☐ 1. Automatic Time-Switch Controls meeting all requirements for Automatic Time Switch Control devices in the Title 20 Appliance Efficiency Regulations, including the requirements below:

a. Residential automatic time-switch controls have program backup capabilities that prevent the loss of the device's schedule for at least 7 days, and the device's date and time for at least 72 hours if power is interrupted.

b. Commercial automatic time-switch controls meet the following requirements:

i. Has program backup capabilities that prevent the loss of the device's schedule for at least 7 days, and the device's date and time for at least 72 hours if power is interrupted;

ii. Is capable of providing manual override to each connected load and shall resume normally scheduled operation after manual override is initiated within 2 hours for each connected load; and

iii. Incorporates an automatic holiday shutoff feature that turns off all connected loads for at least 24 hours and then resumes normally scheduled operation.

☐ 2. Astronomical Time-Switch Controls meeting all requirements for Astronomical Time-Switch Control devices in the Title 20 Appliance Efficiency Regulations, including the requirements below:

a. Meets the requirements of an automatic time-switch control;

b. Has sunrise and sunset prediction accuracy within plus-or-minus 15 minutes and timekeeping accuracy within 5 minutes per year;

c. Is capable of displaying date, current time, sunrise time, sunset time, and switching times for each step during programming;

d. Has an automatic daylight savings time adjustment; and

e. Has the ability to independently offset the on and off for each channel by at least 99 minutes before and after sunrise or sunset.

☐ 3. Multi-Level Astronomical Time-Switch Controls, in addition to meeting all of the requirements for Astronomical Time-Switch Controls, includes at least 2 separately programmable steps per zone.

☐ F. The EMCS or Lighting Control System functions as one or more of the Daylighting Controls listed below:

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 3 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

☐ 1. Automatic Daylight Controls meet all requirements for Automatic Daylight Control devices in the Title 20 Appliance Efficiency Regulations, including the following:

a. Is capable of reducing the power consumption in response to measured daylight either directly or by sending and receiving signals;
b. If the system includes a dimmer, complies with the Dimmer Control device requirements in the Title 20 Appliance Efficiency Regulations.
c. Automatically return to its most recent time delay settings within 60 minutes when put in calibration mode;
d. Has a set point control that easily distinguishes settings to within 10 percent of full scale adjustment;
e. Has a light sensor that has a linear response within 5 percent accuracy over the range of illuminance measured by the light sensor;
f. Has a light sensor that is physically separated from where the calibration adjustments are made, or is capable of being calibrated in a manner that the person initiating the calibration is remote from the sensor during calibration to avoid influencing calibration accuracy; and
g. Complies with the Title 20 requirements for photo controls if the system contains a photo control component.

☐ 2. Photo Controls meet all requirements for Photo Control devices in the Title 20 Appliance Efficiency Regulations, including the following that it does not have a mechanical device that permits disabling of the control.

☐ G. The EMCS or Lighting Control System functions as a Dimmer and meets all requirements for a Dimmer Control device in the Title 20 Appliance Efficiency Regulations, including the following:

1. Is capable of reducing power consumption by a minimum of 65 percent when the dimmer is at its lowest level;
2. Includes an off position which produces a zero lumen output; and
3. Does not consume more than 1 watt per lighting dimmer switch leg when in the off position.
4. Dimmer controls that can directly control lamps provide electrical outputs to lamps for reduced flicker operation through the dimming range so that the light output has an amplitude modulation of less than 30 percent for frequencies less than 200 Hz without causing premature lamp failure.
5. If designed for use in three way circuits is capable of turning lights off, and to the level set by the dimmer if the lights are off.

☐ H. The EMCS or Lighting Control System meets the following requirements:

1. Is capable of automatically turning off controlled lights in the area no more than 30 minutes after the area has been vacated;
2. Allows all lights to be manually turned off regardless of the status of occupancy; and
3. Has a visible status signal that indicates that the device is operating properly, or that it has failed or malfunctioned. The visible status signal may have an override switch that turns off the signal.
4. All occupant sensing devices that utilize ultrasonic radiation for detection of occupants meet the Ultrasound Maximum Decibel Values in the Title 20 Appliance Efficiency Regulations
5. All occupant sensing devices that utilize microwave radiation for detection of occupants meet the radiation requirements in the Title 20 Appliance Efficiency Regulations
6. Occupant sensing devices incorporating dimming comply with the requirements for dimmer controls in the Title 20 Appliance Efficiency Regulations

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 4 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

7. The EMCS or Lighting Control System functions as one or more of the Occupant Sensing Controls Checked Below:

   - ☐ a. Occupant Sensors meeting all applicable requirements for Occupant Sensor Control devices in the Title 20 Appliance Efficiency Regulations
   - ☐ b. Motion Sensors meeting all applicable requirements for Motion Sensor Controls devices in the Title 20 Appliance Efficiency Regulations, including that motion sensors are rated for outdoor use.
   - ☐ c. Vacancy Sensors meeting all applicable requirements for Vacancy Sensor Controls devices in the Title 20 Appliance Efficiency Regulations, including the following:
     - i. Does not turn on lighting automatically and does not incorporate DIP switches, or other manual means, for conversion between manual and automatic functionality;
     - ii. Has a grace period of no more than 30 seconds and no less than 15 seconds to turn on lighting automatically after the sensor has timed out; and
     - iii. Does not have an override switch that disables the sensor.
   - ☐ d. Partial-ON Sensors meeting all applicable requirements for partial on sensing devices in the Title 20 Appliance Efficiency Regulations, including the following:
     - i. Has two poles each with automatic-off functionality;
     - ii. Has one pole that is manual-on and does not incorporate DIP switches, or other manual means, for conversion between manual and automatic functionality; and
     - iii. Has one pole that is automatic-on and is not be capable of conversion by the user to manual-on functionality.
   - ☐ e. Partial-OFF Sensors meet all applicable requirements for partial off sensing devices in the Title 20 Appliance Efficiency Regulations, including the following:
     - i. Has two poles;
     - ii. Has one pole that is manual-on and manual off; and
     - iii. Has one pole that is automatic-on and automatic-off and is not capable of conversion by the user to manual-on only functionality.
   - ☐ f. Occupant Sensing Control systems consist of a combination of single or multi-level Occupant, Motion, or Vacancy Sensor Controls, and all components installed to comply with manual-on requirements are not capable of conversion by the user from manual-on to automatic-on functionality.

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 5 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 3 Requirements for which the control is being installed to complied with:

Identify all requirements in the Standards for which the EMCS or Lighting Control System is installed to function as and complies with:

Check all that are applicable

- ☐ A. Section 130.1(a) Area Controls.
- ☐ B. Section 130.1(b) Multi-Level Lighting Controls
- ☐ C. Section 130.1 (c) Shut-OFF Controls
- ☐ D. Section 130.1 (d) Automatic Daylighting Controls.
- ☐ E. Section 130.1 (e) Demand Responsive Controls.
- ☐ F. Section 130.5 (d) Circuit Controls for 120-Volt Receptacles.

If installed to qualify for a Power Adjustment Factor, submit this Installation Certificate in addition to the PAF Installation Certificate.

- ☐ G. To qualify for the PAF for a Partial-ON Occupant Sensing Control in TABLE 140.6-A
- ☐ H. To qualify for the PAF for an occupant sensing control controlling the general lighting in large open plan office areas above workstations, in accordance with TABLE 140.6-A
- ☐ I. To qualify for the PAF for a Manual Dimming System PAF or a Multiscene Programmable Dimming System PAF in TABLE 140.6-A
- ☐ J. To qualify for the PAF for a Demand Responsive Control in TABLE 140.6-A
- ☐ K. To qualify for the PAF for Combined Manual Dimming plus Partial-ON Occupant Sensing Control in TABLE 140.6-A

CERTIFICATE OF INSTALLATION		NRCI-LTI-02-E
Energy Management Control System or Lighting Control System		(Page 6 of 6)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

TRACK LIGHTING INTEGRAL CURRENT LIMITER OR SUPPLEMENTARY OVERCURRENT PROTECTION PANEL

CERTIFICATE OF INSTALLATION		NRCI-LTI-03-E
Track Lighting Integral Current Limiter or Supplementary Overcurrent Protection Panel		(Page 1 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate:	Date:

Certified Integral Current Limiters, and Dedicated Supplementary Overcurrent Protection Panels Used to control Line-Voltage Track Lighting

§130.4(b) Before a Line-Voltage Track Lighting Integral Current Limiter or Supplementary Overcurrent Protection Panel will be recognized for compliance with the lighting requirements in Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Installation Certificate.

If any of the following requirements fail to comply with any of the Line-Voltage Track Lighting installation requirements, these methods for determining installed lighting power shall not be used for compliance with the Building Energy Efficiency Standards.

Check all that apply:

PART 1 Type of Line-Voltage Track Lighting Control Installed:

☐ **A. Certified Line-Voltage Track Lighting Integral Current Limiter:**

A Line-Voltage Track Lighting Integral Current Limiter that has been certified to the Energy Commission, and consists of a current limiter integral to the end-feed housing of a manufactured line-voltage track lighting system.

☐ **B. Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panel:**

A Track Lighting Supplementary Overcurrent Protection Panel is a Panelboard containing Supplementary Overcurrent Protection Devices as defined in Article 100 of the California Electric Code, and used only with line voltage track lighting.

TRACK LIGHTING INTEGRAL CURRENT LIMITER OR SUPPLEMENTARY OVERCURRENT PROTECTION PANEL

CERTIFICATE OF INSTALLATION		NRCI-LTI-03-E
Track Lighting Integral Current Limiter or Supplementary Overcurrent Protection Panel		(Page 2 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 2 Complete this Section for a Certified Line-Voltage Track Lighting Integral Current Limiter

If any of the following requirements are not met, the Integral Current Limiter shall not be recognized for compliance with the Building Energy Efficiency Standards.

- ☐ A. The track lighting integral current limiter is certified to the Energy Commission in accordance with §110.9 and has been verified by checking the Energy Commission database.
- ☐ B. Installed wattage has been determined in accordance with §130.0(c) and the track lighting worksheet (compliance form NRCC-LTI-05-E) has been completed for all installed track lighting integral current limiters, and submitted to the building department.
- ☐ C. The track current limiter is used exclusively on the same manufacturer's track for which it is designed
- ☐ D. The track current limiter is designed and installed so that the track current limiter housing is permanently attached to the track so that the system will be irreparably damaged if the integral track current limiter housing were to be removed after installation into the track. Methods of attachment may include but are not limited to one-way barbs, rivets, and one-way screws
- ☐ E. The track current limiter has identical volt-ampere (VA) rating of the track current limiter, as installed and rated for compliance with Title 24, Part 6, clearly marked on all of the following locations:
  1. So that it is visible for the building officials' field inspection without opening cover-plates, fixtures, or panels, and
  2. Permanently marked on the circuit breaker, and
  3. On a factory-printed label that is permanently affixed to a non-removable base-plate inside the wiring compartment.
- ☐ F. The track current limiter employs tamper resistant fasteners for the cover to the wiring compartment.
- ☐ G. The track current limiter has a conspicuous factory installed label permanently affixed to the inside of the wiring compartment warning against removing, tampering with, rewiring, or bypassing the device.
- ☐ H. Each electrical panel from which track lighting integral current limiters are connected has a factory printed label permanently affixed and prominently located, with the following information:

  "NOTICE: Current limiting devices installed in track lighting integral current limiters connected to this panel shall only be replaced with the same or lower amperage. Adding track or replacement of existing current limiters with higher continuous ampere rating will void the track lighting integral current limiter certification, and will require re-submittal and re-certification of California Title 24, Part 6 compliance documentation."

- ☐ I. For installations where a total of five or less track current limiters are installed in a single building, all integral track current limiters have been inspected.
- ☐ J. For installations where a total of more than five track current limiters are installed in a single building, no less than five track current limiters have be inspected, up to five inspections for each 20 installed track current limiters.

CERTIFICATE OF INSTALLATION		NRCI-LTI-03-E
Track Lighting Integral Current Limiter or Supplementary Overcurrent Protection Panel		(Page 3 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 3 Complete this Section for Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panels

If any of the following requirements are not met, the Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panel shall not be recognized for compliance with the Building Energy Efficiency Standards.

Note that the Line-Voltage Track Lighting Supplementary Overcurrent Protection Panels are not required to be certified to the Energy Commission.

- ☐ A. Installed wattage has been determined in accordance with §130.0(c) and the track lighting worksheet (compliance form NRCC-LTI-05-E) has been completed for all installed track lighting supplementary overcurrent protection panels, and submitted to the building department.
- ☐ B. The Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panels is Listed in accordance with Article 100 of the California Electric Code
- ☐ C. The Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panels is used only for line-voltage track lighting.
- ☐ D. No Supplementary Overcurrent Protection Panels been used to determine installed wattage for any lighting system other than line-voltage track lighting.
- ☐ E. No other lighting or building power is connected to a Supplementary Overcurrent Protection Panel
- ☐ F. The Dedicated Line-Voltage Track Lighting Supplementary Overcurrent Protection Panels is installed in an electrical equipment room, or permanently installed adjacent to the lighting panel board providing supplementary overcurrent protection for the track lighting circuits served by the supplementary over current protection pane
- ☐ G. There is a prominently labeled permanently attached to the panel by the manufacturer with the following information:

  "NOTICE: This Panel for Track Lighting Energy Code Compliance Only. The overcurrent protection devices in this panel shall only be replaced with the same or lower amperage. No other overcurrent protective device have been added to this panel. Adding to, or replacement of existing overcurrent protective device(s) with higher continuous ampere rating, will void the panel listing and require re-submittal and re-certification of California Title 24, Part 6 compliance documentation."

TRACK LIGHTING INTEGRAL CURRENT LIMITER OR SUPPLEMENTARY OVERCURRENT PROTECTION PANEL

CERTIFICATE OF INSTALLATION		NRCI-LTI-03-E
Track Lighting Integral Current Limiter or Supplementary Overcurrent Protection Panel		(Page 4 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTI-04-E
Two Interlocked Lighting Systems		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

Two Interlocked Lighting Systems

§130.4(b) - Before Two Interlocked Lighting Systems will be permitted for compliance with §140.6 of Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Installation Certificate.

§140.6(a)1. Two interlocked lighting systems: No more than two lighting systems may be used for an area, and if there are two they must be interlocked. Where there are two interlocked lighting systems, the watts of the lower wattage system may be excluded from the actual indoor Lighting Power Density if:

A. An Installation Certificate detailing compliance with §140.6(a)1 is submitted in accordance with §10-103 and §130.4; and
B. The area or areas served by the interlocking systems is an auditorium, a convention center, a conference room, a multipurpose room, or a theater; and
C. The two lighting systems are interlocked with a Nonprogrammable Double-Throw Switch to prevent simultaneous operation of both systems.

If any of the following requirements fail, all installed and all planned portable lighting in the function area shall be included in the Certificates of Compliance when determining the installed lighting power.

Check all that apply:

☐ The function area qualifies to install two interlocked lighting systems because it is **ONLY** one of the following types:

- ☐ Auditorium room
- ☐ Convention center room
- ☐ Conference room
- ☐ Multipurpose room
- ☐ Theater room

☐ There are no more than two interlocked lighting systems serving the space.

☐ The two lighting systems are interlocked with a non-programmable double throw switch to prevent simultaneous operation.

For compliance with Part 6, a Nonprogrammable Double-Throw Switch is an electrical switch commonly called a "single pole double throw" or "three-way" switch that is wired as a selector switch allowing one of two loads to be enabled. It can be a line voltage switch or a low voltage switch selecting between two relays. It cannot be overridden or changed in any manner that would permit both loads to operate simultaneously.

CERTIFICATE OF INSTALLATION		NRCI-LTI-04-E
Two Interlocked Lighting Systems		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTI-05-E
Power Adjustment Factors		(Page 1 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate:	Date:

Power Adjustment Factor (PAF)
§130.4(b) - Before a Power Adjustment Factor will be allowed for compliance with Section 140.6 of Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Installation Certificate.

§140.6(a) 2 - Reduction of wattage through controls. In calculating actual indoor Lighting Power Density, the installed watts of a luminaire providing general lighting in an area listed in TABLE 140.6-A may be reduced by the product of (i) the number of watts controlled as described in TABLE 140.6-A, times (ii) the applicable Power Adjustment Factor (PAF), if all of the conditions [in this Certificate of Installation are met]:

If any of the requirements in this Installation Certificate fail, the installation shall not be eligible for using the PAF.

Check all that apply:

PART 1 Certificate of Compliance Correctly Filled Out

☐ In addition to this Certificate of Installation, the PAF has been correctly document on page 2 of NRCC-LTI-02—E of the Certificate of Compliance submitted to the building department.

PART 2 Type of PAF

☐ **A. This installation qualifies for the following PAFs:**

☐ 1. This installation qualifies for the PAF for a Partial-ON Occupant Sensing Control in TABLE 140.6-A because it meets all of the following requirements:
- ☐ a. The Partial-ON Occupant Sensing Control is use in only the following space types:
  - ☐ i, An area ≤ 250 square feet enclosed by floor-to-ceiling partitions
  - ☐ ii. A classroom of any size
  - ☐ iii. A conference room of any size
  - ☐ iv. A waiting room of any size
- ☐ b. The PAF used is 0.20
- ☐ c. The control automatically deactivates all of the lighting power in the area within 30 minutes after the room has been vacated; and
- ☐ d. The first stage automatically activates between 30-70 percent of the lighting power in the area
- ☐ e. The lighting control is a:
  - ☐ i. Switching system, or

- ☐ ii. Dimming system; and
- ☐ f. The second stage manually activates the alternate set of lights; and
- ☐ g. This manual-ON function is not capable of conversion from manual-ON to automatic-ON functionality via manual switches or dip switches; and
- ☐ h. Switches are located in accordance with Section 130.1(a)
- ☐ i. Occupants can manually do all of the following regardless of the sensor status:
  - ☐ Activate the alternate set of lights; and
  - ☐ Activate 100 percent of the lighting power; and
  - ☐ Deactivate all of the lights.

☐ 2. This installation qualifies for the PAF for an occupant sensing control controlling the general lighting in large open plan office areas above workstations, in accordance with TABLE 140.6-A, because the following requirements have been met:

- ☐ a. The occupant sensing controls are in large open plan offices that are greater than 250 square feet and:
  - ☐ i. One sensor is controlling an area that is no larger than 125 square feet, and the PAF used in 0.40
  - ☐ ii. One sensor is controlling an area that is from 126 to 250 square feet, and the PAF used in 0.30
  - ☐ iii. One sensor is controlling an area that is from 251 to 500 square feet, and the PAF used in 0.20
- ☐ b. This PAF is only being applied only to office areas which contain workstations; and
- ☐ c. Controlled luminaires are only those which provide general lighting directly above the controlled area, or furniture mounted luminaires that comply with Section 140.6(a)2 and provide general lighting directly above the controlled area; and
- ☐ d. Qualifying luminaires have been controlled by occupant sensing controls that meet all of the following requirements, as applicable:
  - ☐ i. Infra-red sensors have been equipped by the manufacturer, or fitted in the field by the installer, with lenses or shrouds to prevent them from being triggered by movement outside of the controlled area.
  - ☐ ii. Ultrasonic sensors have been tuned to reduce their sensitivity to prevent them from being triggered by movements outside of the controlled area.
  - ☐ iii. All other sensors have been installed and adjusted as necessary to prevent them from being triggered by movements outside of the controlled area.

☐ 3. This installation qualifies for the PAF for a Manual Dimming System or a Multiscene Programmable Dimming System in TABLE 140.6-A because:

- ☐ a. The lighting is controlled with a control that can be manually operated by the user; and
- ☐ b. The space is only of the following type:
  - ☐ i. Hotel/motel
  - ☐ ii. Restaurant
  - ☐ iii. Auditorium
  - ☐ iv. Theater
- ☐ c. The type of control and PAF used is one of the following:
  - ☐ i. A Dimming System with manual dimming and the PAF used is 0.10

CERTIFICATE OF INSTALLATION		NRCI-LTI-05-E
Power Adjustment Factors		(Page 3 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

- ☐ ii. A Multiscene Programmable control and the PAF used is 0.20

☐ 4. This installation qualifies for the PAF for a Demand Responsive Control in TABLE 140.6-A, because the installation meets all of the following requirements:

- ☐ i. The building is 10,000 square feet or smaller; and
- ☐ ii. The PAF used is 0.05. Note that luminaires that qualify for other PAFs may also qualify for this demand responsive control PAF.
- ☐ iii. The controlled lighting is capable of being automatically reduced in response to a demand response signal; and
- ☐ iv. Lighting has been reduced in a manner consistent with uniform level of illumination requirements in TABLE 130.1-A; and
- ☐ v. Spaces that are non-habitable have not been used to comply with this requirement, and
- ☐ vi. Spaces with a lighting power density of less than 0.5 watts per square foot have not been counted toward the building's total lighting power.

☐ 5. This installation qualifies for the PAF for Combined Manual Dimming plus Partial-ON Occupant Sensing Control in TABLE 140.6-A because the installation meets all of the following requirements:

- ☐ a. The Combined Control is use in only the following space types:
  - ☐ i, An area ≤ 250 square feet enclosed by floor-to-ceiling partitions
  - ☐ ii. A classroom of any size
  - ☐ iii. A conference room of any size
  - ☐ iv. A waiting room of any size
- ☐ b. The lighting is controlled with a control that can be manually operated by the user; and
- ☐ c. The dimming component is one of the following:
  - ☐ i. A Dimming System with manual dimming; or
  - ☐ ii. A Multiscene Programmable control
- ☐ d. The Partial-ON Occupant Sensing component automatically deactivates all of the lighting power in the area within 30 minutes after the room has been vacated; and
  - ☐ i. The first stage automatically activates between 30-70 percent of the lighting power in the area
  - ☐ ii. The lighting control is a:
    - ☐ Switching system, or
    - ☐ Dimming system; and
  - ☐ iii. The second stage manually activates the alternate set of lights; and
  - ☐ iv. This manual-ON function is not capable of conversion from manual-ON to automatic-ON functionality via manual switches or dip switches; and
  - ☐ v. Switches are located in accordance with Section 130.1(a)
  - ☐ vi. Occupants can manually do all of the following regardless of the sensor status:
    - ☐ Activate the alternate set of lights; and
    - ☐ Activate 100 percent of the lighting power; and
    - ☐ Deactivate all of the lights.
- ☐ e. The PAF used is 0.25

CERTIFICATE OF INSTALLATION		NRCI-LTI-05-E
Power Adjustment Factors		(Page 4 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 3 PAF Minimum Requirements

Check all that apply:

- ☐ A. The lighting control used to earn the PAF is designed and installed in addition to all manual, and automatic lighting controls otherwise required in 130.1(a) through (e)
  - ☐ EXCEPTION. The lighting control used to earn a PAF has been designed and installed for the sole purpose of compliance with Section 130.1(b)3, and this lighting control is designed and installed in addition to all other manual, and automatic lighting controls otherwise required in Section 130.1.
- ☐ B. Installed wattage has been determined in accordance with Section 130.0(c)
- ☐ C. Space types that qualify for the PAF comply with the definition for that space type in Section 100.1(b)
- ☐ D. Self-contained lighting controls used to earn the PAF comply with Section 110.9 and are certified in accordance with the Appliance Efficiency Regulations, as verified on the Title 20 database of certified lighting controls
- ☐ E. A lighting control system is used to earn the PAF, which complies with Section 110.9.
  - ☐ When using a lighting control system to earn a PAF, also submit the Installation Certificate for Energy Management Control System and Lighting Control System
- ☐ F. The controls are permanently installed nonresidential-rated lighting controls. (Portable lighting, portable lighting controls, and residential rated lighting controls shall not qualify for PAFs.)
- ☐ G. The controlled lighting used to earn this PAF is a permanently installed general lighting system.
  - ☐ Furniture mounted luminaires qualify as general lighting system for the purpose of earning this PAF because the general lighting is in an office, and the furniture mounted luminaires comply with all of the following conditions:
    - i. The furniture mounted luminaires have been permanently installed no later than the time of building permit inspection; and
    - ii. The furniture mounted luminaires have been permanently hardwired; and
    - iii. The furniture mounted lighting system has been designed to provide indirect general lighting; and
    - iv. Before multiplying the installed watts of the furniture mounted luminaire by the applicable PAF, 0.3 watts per square foot of the area illuminated by the furniture mounted luminaires has been subtracted from installed watts of the furniture mounted luminaires; and
- ☐ H. At least 50 percent of the light output of the controlled luminaire is within the applicable area listed in TABLE 140.6-A. Luminaires on lighting tracks are within the applicable area in order to qualify for a PAF.
- ☐ I. Only one PAF from TABLE 140.6-A has been used for each qualifying luminaire. PAFs have not been added together unless specifically allowed in TABLE 140.6-A.
- ☐ L. Only lighting wattage directly controlled in accordance with Section 140.6(a)2 has been used to reduce the calculated actual indoor Lighting Power Densities as allowed by Section 140.6(a)2.
  - ☐ Only a portion of the wattage in a luminaire is controlled in accordance Section 140.6(a)2, and only that portion of controlled wattage has been reduced in calculating actual indoor Lighting Power Density.

CERTIFICATE OF INSTALLATION		NRCI-LTI-05-E
Power Adjustment Factors		(Page 5 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

VIDEOCONFERENCE STUDIO LIGHTING

CERTIFICATE OF INSTALLATION		NRCI-LTI-06-E
Videoconference Studio Lighting		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION				
DATE OF BUILDING PERMIT	PERMIT #			
BUILDING TYPE	☐ Nonresidential	☐ High-Rise Res (Common Area)	☐ Hotel/Motel (Common Area)	
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration	☐ Unconditioned

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Certificate of Installation.	Date:

Additional Videoconference Studio Lighting

§130.4(b). - Before the Additional Videoconference Studio Lighting power allotment will be allowed for compliance with Section 140.6 of Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Certificate of Installation.

§140.6(c)2G(vii) - In addition to all other additional lighting power allowed under Sections 140.6(c)2Gi through vi, up to 1.5 watts per square foot of additional lighting power shall be allowed in a videoconferencing studio, as defined in Section 100.1, provided the following conditions are met:

a. A completed and signed Certificate of Installation is prepared and submitted in accordance with Section 130.4(b), specifically detailing compliance with the applicable requirements of Section 140.6(c)2Gvii; and

b. The Videoconferencing Studio is a room with permanently installed videoconferencing cameras, audio equipment, and playback equipment for both audio-based and video-based two-way communication between local and remote sites; and

c. General lighting is switched in accordance with TABLE 130.1-A; and

d. Wall wash lighting is separately switched from the general lighting system; and

e. All of the lighting in the studio, including general lighting and additional lighting power allowed by Section 140.6(c)2Gvii is controlled by a multiscene programmable control system (also known as a scene preset control system).

If any of the requirements in this Certificate of Installation fail, the installation shall not be eligible for the additional lighting power allotment.

Check the following:

☐ A. The videoconferencing studio is using only the Area Category Method for compliance. The extra lighting allowance has not been taken for a space using the Complete Building Method or Tailored Method of compliance.

☐ B. The Videoconferencing Studio is a room with permanently installed videoconferencing cameras, audio equipment, and playback equipment for both audio-based and video-based two-way communication between local and remote sites.

☐ C. General lighting is switched in accordance with Table 130.1-A

☐ D. Wall wash lighting is separately switched from the general lighting system.

☐ E. All of the lighting is controlled by a multiscene programmable control system (scene preset control system)

CERTIFICATE OF INSTALLATION		NRCI-LTI-06-E
Videoconference Studio Lighting		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LT0-01-E
Outdoor Lighting		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION			
DATE OF BUILDING PERMIT	PERMIT #		
BUILDING TYPE	☐ Nonresidential Outdoor Lighting		
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration
If more than one person has responsibility for building construction, each person shall prepare and sign an Installation Certificate document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Installation Certificate document(s) for the entire construction.			

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

In the table below, identify all construction documents that show that the outdoor lighting and controls were installed as it was proposed in the Certificates of Compliance.

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-LT0-01-E
Outdoor Lighting		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
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Documentation Author Name:	Documentation Author Signature:
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2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
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Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTO-02-E
Energy Management Control System or Lighting Control System		(Page 1 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION			
DATE OF BUILDING PERMIT	PERMIT #		
BUILDING TYPE	☐ Nonresidential Outdoor Lighting		
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

Requirements in the Standards:

§130.4(b) Before an Energy Management Control System (EMCS), or Lighting Control System can be recognized for compliance with the lighting control requirements in Part 6 of Title 24, the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction or installation of features, materials, components, or manufactured devices shall sign and submit this Installation Certificate.

If any of the requirements in this Installation Certificate fail the Energy Management Control System or Lighting Control System installation requirements, these options for controlling lighting shall not be recognized for compliance with the Building Energy Efficiency Standards.

Check all that apply:

PART 1 What type of Lighting Control System has been installed?

☐ **A. Energy Management Control System (EMCS) -** Is a computerized control system designed to regulate the energy consumption of a building by controlling the operation of energy consuming systems, such as the heating, ventilation and air conditioning (HVAC), lighting, and water heating systems, and is capable of monitoring environmental and system loads, and adjusting HVAC operations in order to optimize energy usage and respond to demand response signals.

- ☐ The Energy Management Control System has been installed to function as a lighting control required by Part 6 and functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.

- ☐ The EMCS has been separately tested for each respective lighting control system for which it is installed to function as.

☐ **B. Lighting Control System -** Requires two or more components to be installed in the building to provide all of the functionality required to make up a fully functional and compliant lighting control.

- ☐ The installed Lighting Control System complies with the requirements checked below; and all components of the system considered together as installed meet all applicable requirements for the application for which they are installed as required in Sections 130.0 through 130.5, Sections 140.6 through 140.8, Section 141.0, and Section 150.0(k).

CERTIFICATE OF INSTALLATION		NRCI-LTO-02-E
Energy Management Control System or Lighting Control System		(Page 2 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

PART 2 Lighting Control Functional requirements:

Check all that apply when verifying the installation of an EMCS or Lighting Control System.

- ☐ A. All outdoor lighting controls and equipment have been installed in accordance with the manufacturer's instructions.
- ☐ B. The manufacturer has provided instructions for calibration.
- ☐ C. If indicator lights are integral to any components, such indicator lights consumes no more than 1 watt of power per indicator light.
- ☐ D. Components that are regulated by the Title 20 Appliance Efficiency Regulations have been certified to the Energy Commission.
- ☐ E. The EMCS or Lighting Control System functions as one or more of the Time-Switch Lighting Controls checked below, and complies with all of the following requirements:

  - ☐ 1. Automatic Time-Switch Controls meeting all requirements for Automatic Time Switch Control devices in the Title 20 Appliance Efficiency Regulations, including the requirements below:
    a. Commercial automatic time-switch controls meet the following requirements:
      i. Has program backup capabilities that prevent the loss of the device's schedule for at least 7 days, and the device's date and time for at least 72 hours if power is interrupted;
      ii. Is capable of providing manual override to each connected load and shall resume normally scheduled operation after manual override is initiated within 2 hours for each connected load; and
      iii. Incorporates an automatic holiday shutoff feature that turns off all connected loads for at least 24 hours and then resumes normally scheduled operation.

  - ☐ 2. Astronomical Time-Switch Controls meeting all requirements for Astronomical Time-Switch Control devices in the Title 20 Appliance Efficiency Regulations, including the requirements below:
    a. Meets the requirements of an automatic time-switch control;
    b. Has sunrise and sunset prediction accuracy within plus-or-minus 15 minutes and timekeeping accuracy within 5 minutes per year;
    c. Is capable of displaying date, current time, sunrise time, sunset time, and switching times for each step during programming;
    d. Has an automatic daylight savings time adjustment; and
    e. Has the ability to independently offset the on and off for each channel by at least 99 minutes before and after sunrise or sunset.

  - ☐ 3. Multi-Level Astronomical Time-Switch Controls, in addition to meeting all of the requirements for Astronomical Time-Switch Controls, includes at least 2 separately programmable steps per zone.

- ☐ F. The EMCS or Lighting Control System functions as one or more of the Daylighting Controls listed below:
  - ☐ 1. Automatic Daylight Controls meet all requirements for Automatic Daylight Control devices in the Title 20 Appliance Efficiency Regulations, including the following:
    a. Is capable of reducing the power consumption in response to measured daylight either directly or by sending and receiving signals;
    b. If the system includes a dimmer, complies with the Dimmer Control device requirements in the Title 20 Appliance Efficiency Regulations.

c. Automatically return to its most recent time delay settings within 60 minutes when put in calibration mode;
d. Has a set point control that easily distinguishes settings to within 10 percent of full scale adjustment;
e. Has a light sensor that has a linear response within 5 percent accuracy over the range of illuminance measured by the light sensor;
f. Has a light sensor that is physically separated from where the calibration adjustments are made, or is capable of being calibrated in a manner that the person initiating the calibration is remote from the sensor during calibration to avoid influencing calibration accuracy; and
g. Complies with the Title 20 requirements for photo controls if the system contains a photo control component.

☐ 2. Photo Controls meet all requirements for Photo Control devices in the Title 20 Appliance Efficiency Regulations, including the following that it does not have a mechanical device that permits disabling of the control.

☐ G. The EMCS or Lighting Control System functions as a Dimmer and meets all requirements for a Dimmer Control device in the Title 20 Appliance Efficiency Regulations, including the following:

1. Is capable of reducing power consumption by a minimum of 65 percent when the dimmer is at its lowest level;
2. Includes an off position which produces a zero lumen output; and
3. Does not consume more than 1 watt per lighting dimmer switch leg when in the off position.
4. Dimmer controls that can directly control lamps provide electrical outputs to lamps for reduced flicker operation through the dimming range so that the light output has an amplitude modulation of less than 30 percent for frequencies less than 200 Hz without causing premature lamp failure.
5. If designed for use in three way circuits is capable of turning lights off, and to the level set by the dimmer if the lights are off.

☐ H. The EMCS or Lighting Control System meets the following requirements:

1. Is capable of automatically turning off controlled lights in the area no more than 30 minutes after the area has been vacated;
2. Allows all lights to be manually turned off regardless of the status of occupancy; and
3. Has a visible status signal that indicates that the device is operating properly, or that it has failed or malfunctioned. The visible status signal may have an override switch that turns off the signal.
4. All occupant sensing devices that utilize ultrasonic radiation for detection of occupants meet the Ultrasound Maximum Decibel Values in the Title 20 Appliance Efficiency Regulations
5. All occupant sensing devices that utilize microwave radiation for detection of occupants meet the radiation requirements in the Title 20 Appliance Efficiency Regulations
6. Occupant sensing devices incorporating dimming comply with the requirements for dimmer controls in the Title 20 Appliance Efficiency Regulations
7. The EMCS or Lighting Control System functions as one or more of the Occupant Sensing Controls Checked Below:
   - ☐ b. Motion Sensors meeting all applicable requirements for Motion Sensor Controls devices in the Title 20 Appliance Efficiency Regulations, including that motion sensors are rated for outdoor use.
   - ☐ d. Partial-ON Sensors meeting all applicable requirements for partial on sensing devices in the Title 20 Appliance Efficiency Regulations, including the following:
     i. Has two poles each with automatic-off functionality;

CERTIFICATE OF INSTALLATION		NRCI-LTO-02-E
Energy Management Control System or Lighting Control System		(Page 4 of 5)
Project Name:	Enforcement Agency:	Permit Number:
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ii. Has one pole that is manual-on and does not incorporate DIP switches, or other manual means, for conversion between manual and automatic functionality; and

iii. Has one pole that is automatic-on and is not be capable of conversion by the user to manual-on functionality.

☐ e. Partial-OFF Sensors meet all applicable requirements for partial off sensing devices in the Title 20 Appliance Efficiency Regulations, including the following:

i. Has two poles;

ii. Has one pole that is manual-on and manual off; and

iii. Has one pole that is automatic-on and automatic-off and is not capable of conversion by the user to manual-on only functionality.

PART 3 Requirements for which the control is being installed to complied with:

Identify all requirements in the Standards for which the EMCS or Lighting Control System is installed to function as and complies with:

Check all that are applicable

☐ A. Section 130.2(c)1 Photocontrol
☐ B. Section 130.2(c)1 Outdoor astronomical time-switch control
☐ C. Section 130.2 (c)3 Motion Sensor
☐ D. Section 130.2 (c)4A Part-Night Outdoor Lighting Control
☐ E. Section 130.2 (c)4B Motion Sensor
☐ F. Section 130.2 (c)5A Part-Night Outdoor Lighting Control
☐ G. Section 130.2 (c)5B Motion Sensor
☐ H. Section 130.2 (c)5C Centralized time-based zone lighting control.

CERTIFICATE OF INSTALLATION		NRCI-LTO-02-E
Energy Management Control System or Lighting Control System		(Page 5 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-LTS-01-E
Sign Lighting		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION		
DATE OF BUILDING PERMIT	PERMIT #	
LOCATION OF SIGN(S)	☐ Outdoor Sign(s)	☐ Indoor Sign(s)
TYPE OF CONSTRUCTION	☐ New Sign(s)	☐ Sign Alteration

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate.	Date:

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility reported by this Installation Certificate (continued).

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-LTS-01-E
Sign Lighting		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

CERTIFICATE OF INSTALLATION		NRCI-MCH-01-E
Mechanical		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

A. GENERAL INFORMATION	
DATE OF BUILDING PERMIT	
BUILDING TYPE	
PHASE OF CONSTRUCTION	
If more than one person has responsibility for building construction, each person shall prepare and sign an Installation Certificate document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Installation Certificate document(s) for the entire construction.	

B. SCOPE OF RESPONSIBILITY

Date of approval by the enforcement agency of the Certificate of Compliance that provides the specifications for this Installation Certificate.

In the table below identify all applicable construction documents that specify the features, materials, components, manufactured devices, or system performance diagnostic results required for the scope of responsibility for this Installation Certificate.

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-MCH-01-E
Mechanical		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

Instructions for MCH01

Section A. General Information

01. Enter the date on the building permit.
02. Enter the appropriate building type from the pull down list.
03. Enter the appropriate phase of construction from the pull down list

Section B. Scope of Responsibility

01. Enter the date the enforcement agency approved the certificate of compliance (NRCC-MCH-XX) that used as the basis of the specifications used to demonstrate compliance.
02. Enter the construction document that specifies the installed feature, material, component, manufactured device or system performance diagnostic results required for compliance as specified on the certificate of compliance.
03. As needed, this row shall be filled according to the instructions for row B.02
04. As needed, this row shall be filled according to the instructions for row B.02
05. As needed, this row shall be filled according to the instructions for row B.02

Note: more rows shall be added when needed

CERTIFICATE OF INSTALLATION		NRCI-PLB-01-E
Plumbing		(Page 1 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

A. GENERAL INFORMATION	
DATE OF BUILDING PERMIT	
BUILDING TYPE	
PHASE OF CONSTRUCTION	

If more than one person has responsibility for building construction, each person shall prepare and sign an Installation Certificate document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Installation Certificate document(s) for the entire construction.

B. SCOPE OF RESPONSIBILITY

Date of approval by the enforcement agency of the Certificate of Compliance that provides the specifications for this Installation Certificate.

In the table below identify all applicable construction documents that specify the features, materials, components, manufactured devices, or system performance diagnostic results required for the scope of responsibility for this Installation Certificate.

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-PLB-01-E
Plumbing		(Page 2 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

C. MANDATORY REQUIREMENTS FOR ALL CENTRAL DOMESTIC HOT WATER RECIRCULATION SYSTEMS	
01	On systems that have a total capacity greater than 167,000 Btu/hr, outlets that require higher than service water temperatures as listed in the ASHRAE Handbook have separate remote heaters, heat exchangers, or boosters to supply the outlet with the higher temperature. (Section 110.3 (c)1)
02	Systems with circulating pumps or with electrical heat trace systems shall be capable of automatically turning off the system. (Section 110.3(c)2).
03	For public lavatories, the control system shall limit the outlet temperature to 110 degrees Fahrenheit. (Section 110.3(c)3).
04	Unfired storage tanks are insulated with an external R-12 or combination of R-16 internal and external Insulation. Alternatively, the heat loss of the tank surface based on an 80 degrees Fahrenheit water-air temperature difference shall be less than 6.5 Btu per hour per square foot. (Section 110.3(c)4).
05	All sections of the recirculation loop, and the first five feet of all branches off the loop are insulated, to the thicknesses required by Table 120.3A, except for the following: (RA4.4.1) • Piping installed in interior or exterior walls that is surrounded on all sides by at least 1inch of insulation. • Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Metal piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall butt securely against all framing members. • Insulation is not required on the cold water line when it is used as the return
06	Hot water pipes that are buried below grade are installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation. (RA4.4.1)
07	Insulation outside conditioned space is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. (RA4.4.1)
08	Pipe insulation fits tightly to the pipe. (RA4.4.1)
09	On insulated sections of pipe, no piping is visible due to insulation voids, and all elbows and tees are fully insulated.. (RA4.4.1)
10	The recirculation pump is mounted on a vertical section of the return line, OR an automatic air release valve is installed on a riser at least 12 inches in length, on the inlet side of the recirculation pump, no more than 4 feet from the pump. (Section 110.3(c)5A).
11	A check valve is located between the recirculation pump and the water heater. (Section 110.3(c)5B).
12	A hose bibb is installed between the pump and the water heating equipment with an isolation valve between the hose bibb and the water heating equipment. (Section 110.3(c)5C).
13	Isolation valves are installed on both sides of the pump. One of the isolation valves may be the same isolation valve as in item 12 above. (Section 110.3(c)5D).
14	The cold water supply piping and the recirculation loop piping is not connected to the hot water storage tank drain port. (Section 110.3(c)5E).
15	A check valve is installed on the cold water supply line between the hot water system and the next closest tee on the cold water supply. (Section 110.3(c)5F).
16	The hot water distribution system piping from the water heater(s) to the fixtures and appliances takes the most direct path. (RA 4.4.7.1)
17	Installation and operation instructions that provide details of the operation of the pump and controls are available at the jobsite for inspection. (RA 4.4.7.1)
18	More than one circulation loop may be installed. Each loop shall have its own pump and controls. (RA4.4.8, RA 4.4.9, RA 4.4.10)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

CERTIFICATE OF INSTALLATION		NRCI-PLB-01-E
Plumbing		(Page 3 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

D. MANDATORY MEASURES FOR ALL SINGLE DWELLING HOT WATER DISTRIBUTION SYSTEMS	
01	Equipment shall meet the applicable requirements of the Appliance Efficiency Regulations (Section 110.3(b)1).
02	Unfired Storage Tanks are insulated with an external R-12 or combination of R-16 internal and external Insulation. (Section 110.3(c)4).
03	The following pipes are insulated, to the thicknesses required by Table 120.3A, except for those sections of pipe that are subject to one of the exceptions below: (RA4.4.1) • The first 5 feet (1.5 meters) of hot and cold water pipes from the storage tank. • All piping with a nominal diameter of 3/4 inch (19 millimeter) or larger. • All piping associated with a domestic hot water recirculation system regardless of the pipe diameter, except when cold water return is used in a demand system. • Piping from the heating source to storage tank or between tanks. • Piping buried below grade. • All hot water pipes from the heating source to the kitchen fixtures. The following sections of pipe do not have to be insulated: (RA4.4.1) • Piping installed in interior or exterior walls that is surrounded on all sides by at least 1 inch of insulation. • Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Metal piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall butt securely against all framing members.
04	Piping buried below grade must be installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation. (Section 150.0(j))
05	All elbows and tees shall be fully insulated. (RA4.4.1)
06	Where insulation is required, no piping shall be visible due to insulation voids, and all insulation shall fit tightly to the pipe. (RA4.4.1)
07	**For Gas or Propane Water Heaters:** Ensure the following are installed (Section 150.0(n)) 1. A 120V electrical receptacle is within 3 feet from the water heater and accessible with no obstructions 2. A Category III or IV vent, or a Type B vent with straight pipe between outside and water heater 3. A condensate drain no more than 2 inches higher than the base on water heater for natural draining 4. A gas supply line with capacity of at least 200,000 Btu/Hr
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

CERTIFICATE OF INSTALLATION	NRCI-PLB-01-E
Plumbing	(Page 4 of 4)

Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

Instructions for NRCI-PLB-01-E

Section A. GENERAL INFORMATION

01. Enter the date on the building permit.
02. Enter the appropriate building type from the pull down list.
03. Enter the appropriate phase of construction from the pull down list

Section B. SCOPE OF RESPONSIBILITY

01. Enter the date the enforcement agency approved the certificate of compliance (NRCC-MCH-XX) that used as the basis of the specifications used to demonstrate compliance.
02. Enter the construction document that specifies the installed feature, material, component, manufactured device or system performance diagnostic results required for compliance as specified on the certificate of compliance.
03. As needed, this row shall be filled according to the instructions for row B.02
04. As needed, this row shall be filled according to the instructions for row B.02
05. As needed, this row shall be filled according to the instructions for row B.02

Note: more rows shall be added when needed

Section C. MANDATORY REQUIREMENTS FOR ALL CENTRAL DOMESTIC HOT WATER RECIRCULATION SYSTEMS

- For central systems only. Ensure all mandatory requirements are met.

Section D. D. MANDATORY MEASURES FOR ALL SINGLE DWELLING HOT WATER DISTRIBUTION SYSTEMS

- For single dwelling systems only. Ensure all mandatory requirements are met.

HIGH RISE RESIDENTIAL/HOTEL/MOTEL CENTRAL HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-02-E
High Rise Residential/Hotel/Motel Central Hot Water System Distribution		(Page 1 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

A. DHW Distribution System		
01	Water Heating System Name:	
02	Distribution type:	

B. Multiple Dwelling Units – Recirculation Temperature Modulation Control Requirements Systems that utilize this distribution type shall comply with these requirements	
01	Controls have been installed that reduce the hot water supply temperature when hot water demand is determined to be low by the control system. The control system may use a fixed control schedule or dynamic control schedules based measurements of hot water demand. (RA4.4.11).
02	Daily hot water supply temperature reduction (which is defined as the sum of temperature reduction by the control in each hour within a 24-hour period) shall be more than 50 degrees Fahrenheit. (RA4.4.11)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

C. Multiple Dwelling Units – Recirculation Continuous Monitoring Systems Requirements Systems that utilize this distribution type shall comply with these requirements	
01	The water heating system must have a means of communicating with the remote monitoring facility. (RA4.4.12)
02	The monitoring system must record no less frequently than hourly measurement of key system operation parameters, including hot water supply and return temperatures, and status of gas valve relays. (RA4.4.12)
03	A current contract must be available that demonstrate the system will be monitored. (RA4.4.12)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

CERTIFICATE OF INSTALLATION		NRCI-PLB-02-E
High Rise Residential/Hotel/Motel Central Hot Water System Distribution		(Page 2 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

D. Multiple Dwelling Units – Demand Recirculation Requirements Systems that utilize this distribution type shall comply with these requirements	
01	The system operates “on-demand”, meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
02	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
03	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
04	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
05	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
06	Manual or sensor controls shall be installed and, if powered, each control has standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

E. Multiple Dwelling Units – Non-Demand Control Recirculation Systems Requirements Systems that utilize this distribution type shall comply with these requirements	
01	The active control shall be either: timer, temperature, or time and temperature. Timers shall be set to less than 24 hours. The temperature sensor shall be connected to the piping and to the controls for the pump.
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

HIGH RISE RESIDENTIAL/HOTEL/MOTEL CENTRAL HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION	NRCI-PLB-02-E
High Rise Residential/Hotel/Motel Central Hot Water System Distribution	(Page 3 of 3)

Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

A. DHW Distribution System
Enter the water heating system name and the distribution type in this table. The type of distribution system that require for this form are:

* Recirculation Temperature Modulation Control
* Recirculation Continuous Monitoring Systems
* Demand Recirculation
* Non-Demand Control Recirculation Systems

B. Multiple Dwelling Units – Recirculation Temperature Modulation Control Requirements
This table only applies to systems indicated in Table A as **Recirculation Temperature Modulation Control.** The installer must ensure the requirements on this table are met.

C. Multiple Dwelling Units – Recirculation Continuous Monitoring Systems Requirements
This table only applies to systems indicated in Table A as **Recirculation Continuous Monitoring Systems.** The installer must ensure the requirements on this table are met.

D. Multiple Dwelling Units – Demand Recirculation Requirements
This table only applies to systems indicated in Table A as **Demand Recirculation.** The installer must ensure the requirements on this table are met.

E. Multiple Dwelling Units – Non-Demand Control Recirculation Systems Requirements
This table only applies to systems indicated in Table A as **Non-Demand Control Recirculation Systems.** The installer must ensure the requirements on this table are met.

HIGH RISE RESIDENTIAL, HOTEL/MOTEL SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-03-E
High Rise Residential, Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 1 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

A. DHW Distribution System		
1	Water Heating System Name:	
2	Distribution type:	

B. Standard Distribution System Requirements(trunk and branch systems only) Systems that utilize this distribution type shall comply with these requirements	
1	Verification of mandatory measures identified on table D, PLB-01-E shows compliance for standard distribution system
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

C. Pipe Insulation Credit Requirements(For trunk and branch Hot Water system) Systems that utilize this distribution type shall comply with these requirements	
1	All hot water piping shall comply with the insulation requirements in Table 120.3-A. (RA 4.4.14)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

D. Parallel Piping Requirements Systems that utilize this distribution type shall comply with these requirements	
1	Each central manifold has 15 feet or less of pipe between manifold and water heater (RA 4.4.15)
2	For manifolds that include valves, the manifold must be readily accessible in accordance with the plumbing code. (RA 4.4.4)
3	Hot water distribution system piping from the manifold to the fixtures and appliances must take the most direct path. For instance, piping from a second story manifold cannot supply the first floor. (RA 4.4.4)
4	The hot water distribution piping must be separated by at least two inches from any other hot water supply piping, and at least six inches from any cold water supply piping. Alternatively, the hot water supply piping must be insulated to the thicknesses shown in TABLE 120.3-A. (RA 4.4.4)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

E. Recirculation Non-Demand controls Requirements Systems that utilize this distribution type shall comply with these requirements	
1	If more than one loop installed each loop shall have its own pump and controls
2	The active control shall be either: timer, temperature, or time and temperature. Timers shall be set to less than 24 hours. The temperature sensor shall be connected to the piping and to the controls for the pump.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

CERTIFICATE OF INSTALLATION		NRCI-PLB-03-E
High Rise Residential, Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 2 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

F. Demand Recirculation Manual Control Requirements Systems that utilize this distribution type shall comply with these requirements	
1	The system operates “on-demand”, meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
2	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
3	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
4	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
5	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
6	Each control shall have standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
7	If more than one loop installed each loop shall have its own pump and controls
8	Automatic Air release valve is installed on the inlet side of the recirculation pump per Section 110.3(c)5A.
9	A check valve is located between the recirculation pump and the water heater per Section 110.3(c)5B.
10	Hose bibb is installed between the pump and the water heating equipment with an isolation valve between the hose bibb and the water heating equipment per Section 110.3(c)5C.
11	Isolation valves are installed on both sides of the pump. One of the isolation valves may be the same isolation valve as in item 10 above per Section 110.3(c)5D.
12	The cold water supply piping and the recirculation loop piping is not connected to the hot water storage tank drain port per Section 110.3(c)5E.
13	A check valve is installed on the cold water supply line between the hot water system and the next closest tee on the cold water supply per Section 110.3(c)5F.
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

HIGH RISE RESIDENTIAL, HOTEL/MOTEL SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-03-E
High Rise Residential, Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 3 of 4)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

G. Demand Recirculation Sensor Control Requirements Systems that utilize this distribution type shall comply with these requirements	
1	The system operates “on-demand”, meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
2	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
3	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
4	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
5	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
6	Each control shall have standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
7	If more than one loop installed each loop shall have its own pump and controls
8	Automatic Air release valve is installed on the inlet side of the recirculation pump per Section 110.3(c)5A.
9	A check valve is located between the recirculation pump and the water heater per Section 110.3(c)5B.
10	Hose bibb is installed between the pump and the water heating equipment with an isolation valve between the hose bibb and the water heating equipment per Section 110.3(c)5C.
11	Isolation valves are installed on both sides of the pump. One of the isolation valves may be the same isolation valve as in item 10 above per Section 110.3(c)5D.
12	The cold water supply piping and the recirculation loop piping is not connected to the hot water storage tank drain port per Section 110.3(c)5E.
13	A check valve is installed on the cold water supply line between the hot water system and the next closest tee on the cold water supply per Section 110.3(c)5F.
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

HIGH RISE RESIDENTIAL, HOTEL/MOTEL SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION	NRCI-PLB-03-E
High Rise Residential, Hotel/Motel Single Dwelling Unit Hot Water System Distribution	(Page 4 of 4)

Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

A. DHW Distribution System

Enter the water heating system name and the distribution type in this table. The type of distribution system that require for this form are:

* Standard Distribution System
* Pipe Insulation Credit
* Parallel Piping
* Recirculation Non-demand controls
* Demand Recirculation Manual Control
* Demand Recirculation Sensor Control

B. Standard Distribution System Requirements (trunk and branch systems only)

This table only applies to systems indicated in B14 and C14 as **Standard Distribution System.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

C. Pipe Insulation Credit Requirements (For trunk and branch Hot Water system)

This table only applies to systems indicated in B14 and C14 as **Pipe Insulation Credit.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

D. Parallel Piping Requirements

This table only applies to systems indicated in B14 and C14 as **Parallel Piping.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

E. Recirculation Non-demand controls Requirements

This table only applies to systems indicated in B14 and C14 as **Recirculation Non-demand controls.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

F. Demand Recirculation Manual Control Requirements

This table only applies to systems indicated in B14 and C14 as **Demand Recirculation Manual Control.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

G. Demand Recirculation Sensor Control Requirements

This table only applies to systems indicated in B14 and C14 as **Demand Recirculation Senor Control.** In additional the mandatory requirements in Table E, the installer must ensure the requirements on this table are met.

HERS VERIFIED MULTIFAMILY CENTRAL HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-21-H
HERS Verified High Rise Residential/Hotel/Motel Central Hot Water System Distribution		(Page 1 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

A. DHW Distribution System		
1	Water Heating System Name:	
2	Distribution Type:	

B. Multiple Dwelling Units – Recirculation Temperature Modulation Control Requirements Systems that utilize this distribution type shall comply with these requirements	
1	Controls have been installed that reduce the hot water supply temperature when hot water demand is determined to be low by the control system. The control system may use a fixed control schedule or dynamic control schedules based measurements of hot water demand. (RA4.4.11).
2	Daily hot water supply temperature reduction (which is defined as the sum of temperature reduction by the control in each hour within a 24-hour period) shall be more than 50 degrees Fahrenheit. (RA4.4.11)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

C. Multiple Dwelling Units – Recirculation Continuous Monitoring Systems Requirements Systems that utilize this distribution type shall comply with these requirements	
1	The water heating system must have a means of communicating with the remote monitoring facility. (RA4.4.12)
2	The monitoring system must record no less frequently than hourly measurement of key system operation parameters, including hot water supply and return temperatures, and status of gas valve relays. (RA4.4.12)
3	A current contract must be available that demonstrate the system will be monitored. (RA4.4.12)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

CERTIFICATE OF INSTALLATION		NRCI-PLB-21-H
HERS Verified High Rise Residential/Hotel/Motel Central Hot Water System Distribution		(Page 2 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

D. Multiple Dwelling Units – Demand Recirculation Requirements Systems that utilize this distribution type shall comply with these requirements	
1	The system operates "on-demand", meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
2	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
3	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
4	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
5	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
6	Manual or sensor controls shall be installed and, if powered, each control has standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

E. Multiple Dwelling Units – Non-demand control Recirculation Systems Requirements Systems that utilize this distribution type shall comply with these requirements	
1	The active control shall be either: timer, temperature, or time and temperature. Timers shall be set to less than 24 hours. The temperature sensor shall be connected to the piping and to the controls for the pump.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

F. HERS Verified Multiple Recirculation Loops for DHW Systems Serving Multiple Dwelling Units Requirements All distribution systems listed on this form shall comply with these requirements	
1	All buildings with 8 or more dwelling units have a **minimum** of 2 recirculation loops.
2	Each loop roughly serves the same number of dwellings.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

HERS VERIFIED MULTIFAMILY CENTRAL HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION	NRCI-PLB-21-H
HERS Verified High Rise Residential/Hotel/Motel Central Hot Water System Distribution	(Page 3 of 3)

Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I understand that a HERS rater will check the installation to verify compliance, and that if such checking identifies defects; I am required to take corrective action at my expense. I understand that Energy Commission and HERS Provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense.
5. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
6. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

Instructions to NRCI-PLB-21-H

A. DHW Distribution System

Enter the water heating system name and the distribution type in this table. The type of distribution system that require for this form are:

* Recirculation Temperature Modulation Control with HERS-Verified Multiple Loops
* Recirculation Continuous Monitoring Systems with HERS-Verified Multiple Loops
* Demand Recirculation with HERS-Verified Multiple Loops
* Non-demand control Recirculation Systems with HERS-Verified Multiple Loops

B. Multiple Dwelling Units – Recirculation Temperature Modulation Control Requirements

This table only applies to systems indicated in Table A as **Recirculation Temperature Modulation Control.** In additional the mandatory requirements in Table D, the HERS rater must ensure the requirements on this table are met.

C. Multiple Dwelling Units – Recirculation Continuous Monitoring Systems Requirements

This table only applies to systems indicated in Table A as **Recirculation Continuous Monitoring Systems.** In additional the mandatory requirements in Table D, the HERS rater must ensure the requirements on this table are met.

D. Multiple Dwelling Units – Demand Recirculation Requirements

This table only applies to systems indicated in Table A as **Demand Recirculation.** In additional the mandatory requirements in Table D, the HERS rater must ensure the requirements on this table are met.

E. Multiple Dwelling Units – Non-Demand Control Recirculation Systems Requirements

This table only applies to systems indicated in Table A as **Non-Demand Control Recirculation Systems.** In additional the mandatory requirements in Table D, the HERS rater must ensure the requirements on this table are met.

F. HERS Verified Multiple Recirculation Loops for DHW Systems Serving Multiple Dwelling Units Requirements

This table applies to all systems identified on this form. This measure requires on site HERS verification that at least two central recirculation loops are included in the system design. This credit is available to buildings with 8 or more units. The recirculation loops must be relatively equal in length and supply approximately the same number of dwelling units.

HERS VERIFIED SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-22-H
HERS Verified High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 1 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

A. DHW Distribution System		
01	Water Heating System Name	
02	Distribution Type	

B. HERS-Verified Pipe Insulation Credit Requirements Systems that utilize this distribution type shall comply with these requirements	
01	All hot water piping shall comply with the insulation requirements in Table 120.3-A. (RA 4.4.14)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

C. HERS-Verified Parallel Piping Requirements Systems that utilize this distribution type shall comply with these requirements	
01	Each central manifold has 5 feet or less of pipe between manifold and water heater. (RA 4.4.15)
02	For manifolds that include valves, the manifold must be readily accessible in accordance with the plumbing code. (RA 4.4.4)
03	Hot water distribution system piping from the manifold to the fixtures and appliances must take the most direct path. For example, piping from a second story manifold cannot supply the first floor. (RA 4.4.4)
04	The hot water distribution piping must be separated by at least two inches from any other hot water supply piping, and at least six inches from any cold water supply piping. Alternatively, the hot water supply piping must be insulated to the thicknesses shown in TABLE 120.3-A. (RA 4.4.4)
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

D. HERS-Verified Compact Hot Water Distribution System Requirements Systems that utilize this distribution type shall comply with these requirements		
01	Total Conditioned floor area (square feet)	
02	Maximum allowed pipe run length from the water heater to the furthest point of use For the floor area served (feet).	
03	The pipe run length from each water heater to the furthest fitting served by that water heater must be no greater than the maximum pipe run length above.	
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.		

CERTIFICATE OF INSTALLATION		NRCI-PLB-22-H
HERS Verified High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 2 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

E. HERS-Verified Point of Use Requirements
Systems that utilize this distribution type shall comply with these requirements

01	All hot water supply pipe run lengths are equal to or less than the maximum values shown below, based on the pipe diameter. If a combination of piping is used in a single run then one half the allowed length of each size is the maximum installed length. The maximum allowed length of piping for the longest run terminating in: 3/8 inch - For only one pipe size - max length allowed is 15 feet For combination pipe sizes the max allowed length of 3/8 inch piping is 7.5 feet, of ½ inch piping is 5 feet, and ¾ inch piping is 2.5 feet. ½ inch - For only one pipe size – max length allowed is 10 feet For combination pipe sizes the allowed length of ½ inch piping is 5 feet, and ¾ inch piping is 2.5 feet. ¾ inch - For only one pipe size = 5 feet

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

HERS VERIFIED SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION	NRCI-PLB-22-H
HERS Verified High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution	(Page 3 of 5)

Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

F. HERS-Verified Demand Recirculation Manual Control Requirements Systems that utilize this distribution type shall comply with these requirements	
01	The system operates “on-demand”, meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
02	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
03	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
04	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
05	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
06	Each control shall have standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
07	If more than one loop installed each loop shall have its own pump and controls
08	Automatic Air release valve is installed on the inlet side of the recirculation pump per Section 110.3(c)5A.
09	A check valve is located between the recirculation pump and the water heater per Section 110.3(c)5B.
10	Hose bibb is installed between the pump and the water heating equipment with an isolation valve between the hose bibb and the water heating equipment per Section 110.3(c)5C.
11	Isolation valves are installed on both sides of the pump. One of the isolation valves may be the same isolation valve as in item 10 above per Section 110.3(c)5D.
12	The cold water supply piping and the recirculation loop piping is not connected to the hot water storage tank drain port per Section 110.3(c)5E.
13	A check valve is installed on the cold water supply line between the hot water system and the next closest tee on the cold water supply per Section 110.3(c)5F.
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

HERS VERIFIED SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION		NRCI-PLB-22-H
HERS Verified High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution		(Page 4 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

G. HERS-Verified Demand Recirculation Sensor Control Requirements Systems that utilize this distribution type shall comply with these requirements	
01	The system operates “on-demand”, meaning that the pump begins to operate shortly before or immediately after hot water draw begins, and stops when the return water temperature reaches a certain threshold value. (RA4.4.13)
02	After the pump has been activated, the controls shall allow the pump to operate until the water temperature at the thermo-sensor rises to one of the following values: (RA4.4.13) • Not more than 10 degrees Fahrenheit (5.6 degrees Celsius) above the initial temperature of the water in the pipe • Not more than 102 degrees Fahrenheit (38.9 degrees Celsius).
03	The controls shall limit pump operation to a maximum of 10 minutes following any activation. This is provided in the event that the normal means of shutting off the pump have failed. (RA4.4.13)
04	Pump and control placement shall meet one of the following criteria: (RA4.4.13) • When a dedicated return line has been installed the pump, controls and thermo-sensor are installed at the end of the supply portion of the recirculation loop; or • The pump and controls are installed on the dedicated return line near the water heater and the thermo-sensor is installed in an accessible location as close to the end of the supply portion of the recirculation loop as possible, or • When the cold water line is used as the return, the pump, demand controls and thermosensor shall be installed in an accessible location at the end of supply portion of the hot water distribution line (typically under a sink).
05	Insulation is not required on the cold water line when it is used as the return. (RA4.4.13)
06	Each control shall have standby power of 1 Watt or less. Controls may be located in individual units or on the loop. Controls may be activated by wired or wireless mechanisms, including buttons, motion sensors, door switches and flow switches. (RA4.4.13)
07	If more than one loop installed each loop shall have its own pump and controls
08	Automatic Air release valve is installed on the inlet side of the recirculation pump per Section 110.3(c)5A.
09	A check valve is located between the recirculation pump and the water heater per Section 110.3(c)5B.
10	Hose bibb is installed between the pump and the water heating equipment with an isolation valve between the hose bibb and the water heating equipment per Section 110.3(c)5C.
11	Isolation valves are installed on both sides of the pump. One of the isolation valves may be the same isolation valve as in item 8 above per Section 110.3(c)5D.
12	The cold water supply piping and the recirculation loop piping is not connected to the hot water storage tank drain port per Section 110.3(c)5E.
13	A check valve is installed on the cold water supply line between the hot water system and the next closest tee on the cold water supply per Section 110.3(c)5F.
The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.	

HERS VERIFIED SINGLE DWELLING UNIT HOT WATER SYSTEM DISTRIBUTION

CERTIFICATE OF INSTALLATION	NRCI-PLB-22-H
HERS Verified High Rise Residential/Hotel/Motel Single Dwelling Unit Hot Water System Distribution	(Page 5 of 5)

Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I understand that a HERS rater will check the installation to verify compliance, and that if such checking identifies defects; I am required to take corrective action at my expense. I understand that Energy Commission and HERS Provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense.
5. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
6. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

Instructions to NRCI-PLB-22-H

A. DHW Distribution System

Enter the water heating system name and the distribution type in this table. The type of distribution system that require for this form are:

* HERS-Verified Pipe Insulation Credit
* HERS-Verified Parallel Piping
* HERS-Verified Compact Hot Water Distribution System
* HERS-Verified Point of Use
* HERS-Verified Demand Recirculation Manual Control
* HERS-Verified Demand Recirculation Sensor Control

B. HERS-Verified Pipe Insulation Credit Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Pipe Insulation Credit.** In additional the mandatory requirements in Table E, the HERS rater must ensure the requirements on this table are met.

C. HERS-Verified Parallel Piping Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Parallel Piping.** In additional the mandatory requirements in Table E, the HERS rater must ensure the requirements on this table are met.

D. HERS-Verified Compact Hot Water Distribution System Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Compact Hot Water Distribution System.** In additional the mandatory requirements in Table E, the HERS rater must ensure the distance between the water heater to furthest point of water use does not exceed the maximum indicated in Table H1 below. Calculated the Floor Area Served by dividing the conditioned floor area by the number of installed water heaters (Floor Area Served= CFA/# of WH). In addition all hot water lines shall be insulated.

TABLE H1
Compact Hot Water Distribution System-(CHWDS)

Floor Area Served (ft2)	Maximum Measured Water Heater To Use Point Distance (ft)
< 1000	28
1001 – 1600	43
1601 – 2200	53
2201 – 2800	62
>2800	68

E. HERS-Verified Point of Use Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Point of Use.** In additional the mandatory requirements in Table E, the HERS rater must ensure the distance between the water heater to furthest point of water use does not exceed the maximum indicated in Table H1 below. If a combination of piping is used in a single run then one half the allowed length of each size is the maximum installed length. In additional all hot water lines shall be insulated.

TABLE I1
HERS-Verified Point of Use (POU-H)

Size Nominal, Inch	Maximum Measured Water Heater To Use Point Distance Length of Pipe (feet)
3/8”	15
1/2”	10
3/4”	5

F. HERS-Verified Demand Recirculation Manual Control Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Demand Recirculation Manual Control.** In additional the mandatory requirements in Table E, the HERS rater must ensure the requirements on this table are met.

G. HERS-Verified Demand Recirculation Sensor Control Requirements

This table only applies to systems indicated in Table A as **HERS-Verified Demand Recirculation Sensor Control.** In additional the mandatory requirements in Table E, the i HERS rater must ensure the requirements on this table are met.

CERTIFICATE OF INSTALLATION		NRCI-PRC-01-E
Covered Processes		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

GENERAL INFORMATION			
DATE OF BUILDING PERMIT	PERMIT #		
BUILDING TYPE	☐ Refrigerated Warehouse		
PHASE OF CONSTRUCTION	☐ New Construction	☐ Addition	☐ Alteration
If more than one person has responsibility for building construction, each person shall prepare and sign an Installation Certificate document applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign the Installation Certificate document(s) for the entire construction.			

SCOPE OF RESPONSIBILITY	
Enter the date of approval by enforcement agency of the Certificate of Compliance that provides the specifications for the energy efficiency measures for the scope of responsibility for this Installation Certificate:	Date:

In the table below identify all applicable construction documents that specify the requirements for the scope of responsibility for this Installation Certificate.

Document Title or Description	Applicable Sheets or Pages, Tables, Schedules, etc.	Date Approved By the Enforcement Agency

CERTIFICATE OF INSTALLATION		NRCI-PRC-01-E
Covered Processes		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Installation documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

SOLAR PHOTOVOLTAIC SYSTEM

CERTIFICATE OF INSTALLATION		NRCI-SPV-01-E
Solar Photovoltaic System		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

The installer is required to fill out this form for all newly installed Photovoltaic Systems (PV) when the PV system is being used to claim Exception1 to Section 110.10(b)1B of the Solar Ready requirements. Section 110.10(b)1B applies to High-rise Multifamily Buildings and Hotel/Motel Occupancies with fewer than ten stories and nonresidential buildings with three stories or fewer. An installer wishing to claim Exception 1 to Section 110.10(b)1B for a Low-rise Multifamily building must submit a CF2R-SPV-01-E.

A. General Information		
01	Total Roof Area (ft^2)	
02.	Minimum Nameplate DC Power Rating (Watts) = Total Roof Area (ft^2) x (1 Watt/ft^2)	
03	Enter Module Manufacturer Name	
04	Enter Module Model Number	
05	Enter Module Nameplate DC Power Rating measure under Standard Test Conditions (watts)	
06	Enter Number of Modules used in the PV System	
07	Installed PV System Nameplate DC Power Rating (Watts) = Module Nameplate DC Power Rating (watts) x Number of Modules used in PV System	
08	If Installed PV System Nameplate DC Power Rating is greater than or equal to Minimum Nameplate DC Power Rating then the PV system complies, otherwise the PV System does not comply.	Complies ☐ Does Not Comply ☐
The responsible person's signature on this document certifies that these requirements have been met.		

CERTIFICATE OF INSTALLATION		NRCI-SPV-01-E
Solar Photovoltaic System		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Dwelling Address:	City	Zip Code

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
5. I will ensure that a completed signed copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed:

Installer Instructions

1. Enter Total Roof Area in square feet in Box A01
2. Calculate Minimum Nameplate DC Power Rating in watts in Box A02 by multiplying the Total Roof Area in Box A01 by 1 (W/ft^2)
3. Enter Module Manufacturer Name in Box A03
4. Enter Module Model Number in Box A04
5. Enter Module Nameplate DC Power Rating of module in Box A05
6. Enter Number of Modules used in PV system in Box A06
7. Calculate Installed PV System Nameplate DC Power Rating in Box A07 by multiplying values in Box A05 and Box A06
8. Verify that the calculated value in Box A07 is greater than or equal to the calculated value in Box A02. If the value in Box A07 is greater than the value in Box A02, the system complies, otherwise it does not comply.
9. The installer certifies that all requirements have been met. Then go to end of form and sign signature block

CERTIFICATE OF INSTALLATION		NRCI-STH-01-E
Solar Water Heating Systems		(Page 1 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

A. SOLAR WATER HEATING SYSTEMS		
01	Manufacturer Name	
02	Model Number	
03	SRCC Certification Number	
04	Solar Savings Fraction (annual average value)	
05	# of Collectors in System	
06	Collector Size (Square Footage)	
07	Total Storage Volume (gallons)	
08	Solar System Collector Orientation	
09	Solar System Collector Tilt	
The responsible person's signature on this Certificate of Installation indicates the system identified on this Certificate has complied with all applicable requirements specified in this Table.		

B. SRCC OG-100 CERTIFIED COLLECTORS *The installed system shall meet the following eligibility criteria:*	
01	System is installed at the same orientation as modeled.
02	System is installed at the same tilt as modeled.
03	The system shall have the same collectors, pumps, controls, storage tank and backup water heater fuel type as the rated condition.
04	The collectors are located in a position that is not shaded by adjacent buildings or trees.
05	Backup Storage tanks are insulated with either an internal R-12 (labeled on tank) or external R-16
The responsible person's signature on this Certificate of Installation indicates the system identified on this Certificate has complied with all applicable requirements specified in this Table.	

C. SIZING COMPLIANCE WITH MULTIFAMILY PRESCRIPTIVE REQUIREMENTS*:*	
01	For climate zones 1 through 9 only - the solar system has an annual solar savings fraction of 0.2
02	For climate zones 10 through 16 only – the solar system has an annual solar savings fraction of 0.35
The responsible person's signature on this Certificate of Installation indicates the system identified on this Certificate has complied with all applicable requirements specified in this Table.	

D. MANDATORY MEASURES FOR SOLAR WATER HEATING SYSTEMS	
01	For Multifamily, Hotel and Motels backup storage tanks for solar water-heating systems have R-12 external insulation or R-16 internal insulation where the internal insulation R-value indicated on the exterior of the tank. (§150.0(j)1B).
02	All domestic hot water piping (including solar) shall be insulated (§150(j)2A) or (§120.3).
03	Solar water-heating system and/or/collectors are certified by the Solar Rating and Certification Corporation. (§150.0(n)).
The responsible person's signature on this Certificate of Installation indicates the system identified on this Certificate has complied with all applicable requirements specified in this Table.	

CERTIFICATE OF INSTALLATION		NRCI-STH-01-E
Solar Water Heating Systems		(Page 2 of 2)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ HERS Certification Identification (If applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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1. The information provided on this Certificate of Installation is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency.
4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met.
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Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed: